



National Airspace System (NAS) Performance Assessment and the OEP

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Overview



- **Current state of the system**
 - Traffic demand, delays, and en route operations
- **Important analyses released since last industry day**
 - Their impact on OEP
- **Updated model results**
 - Influence of new demand forecasts
- **Modeled vs. actual performance**
 - How are we doing in predicting future performance?
- **The changing landscape**
 - A closer look at Effective Capacity



CENTER FOR ADVANCED AVIATION SYSTEM DEVELOPMENT (CAASD)

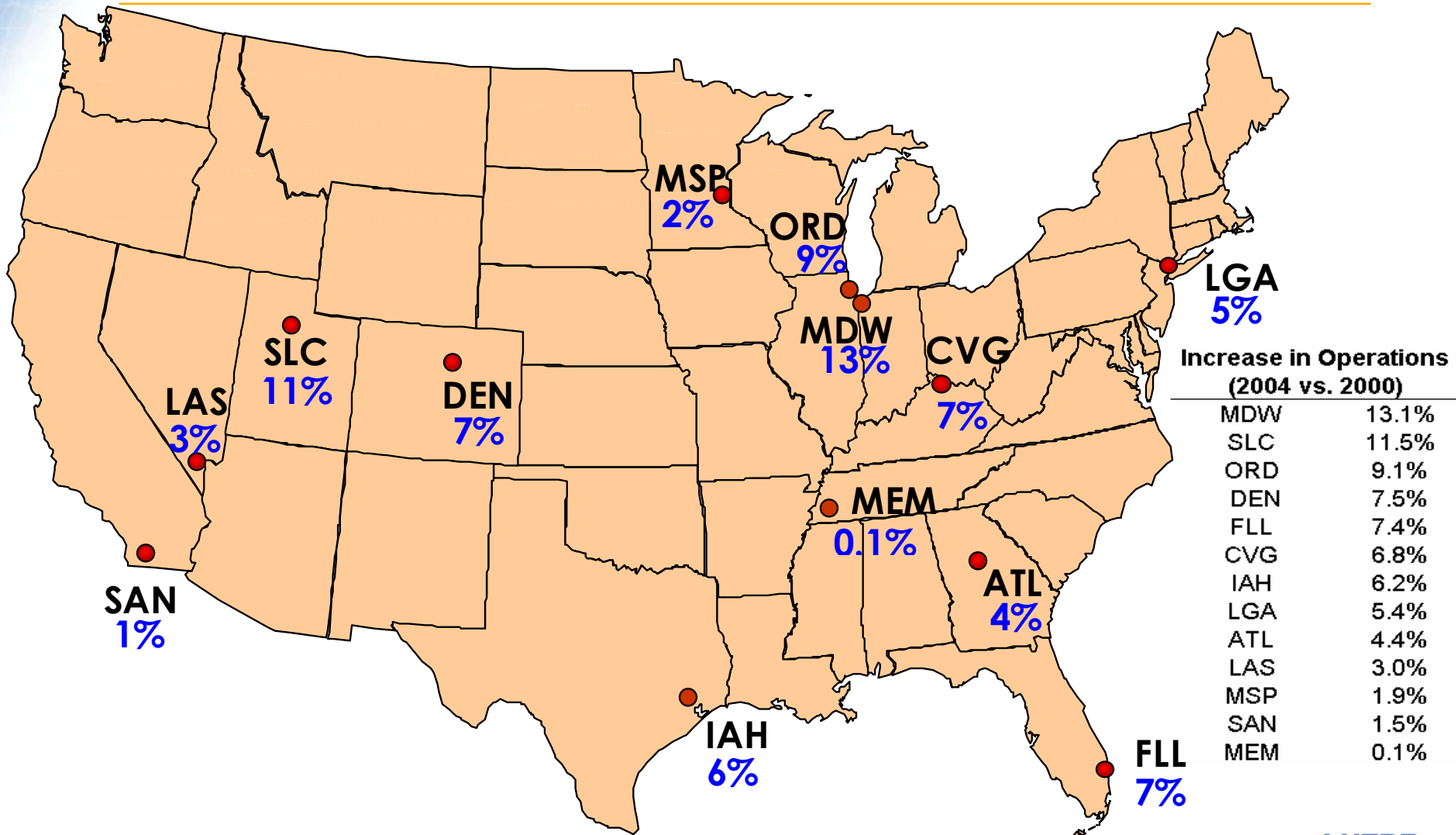


Current State of the System



Traffic is On the Rise

13 of 35 OEP airports have more traffic (FY2004 vs. FY2000)



Source: OPSNET

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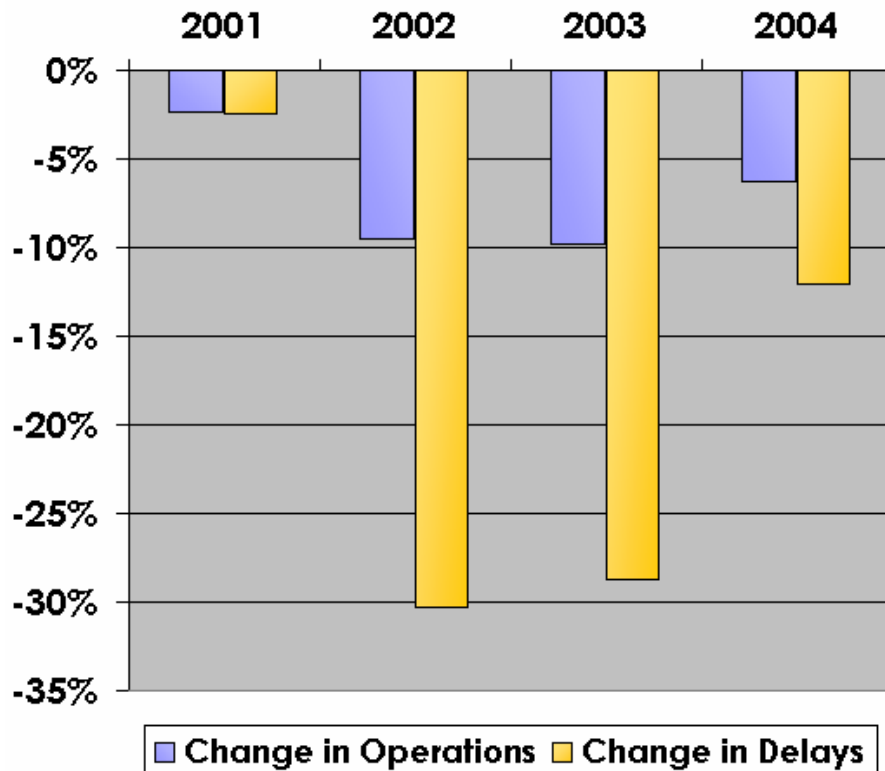


Delays are Down

NAS-Wide Delays Are Still Below 2000 Levels

Operations & Delays at OEP Airports

(Relative to 2000 by Fiscal Year)



- Operations were 6.3% lower in FY 2004 than in FY 2000.
- Delays were 12.0% lower in FY 2004 than in FY 2000.
- Delays have increased from their FY 2002 low.

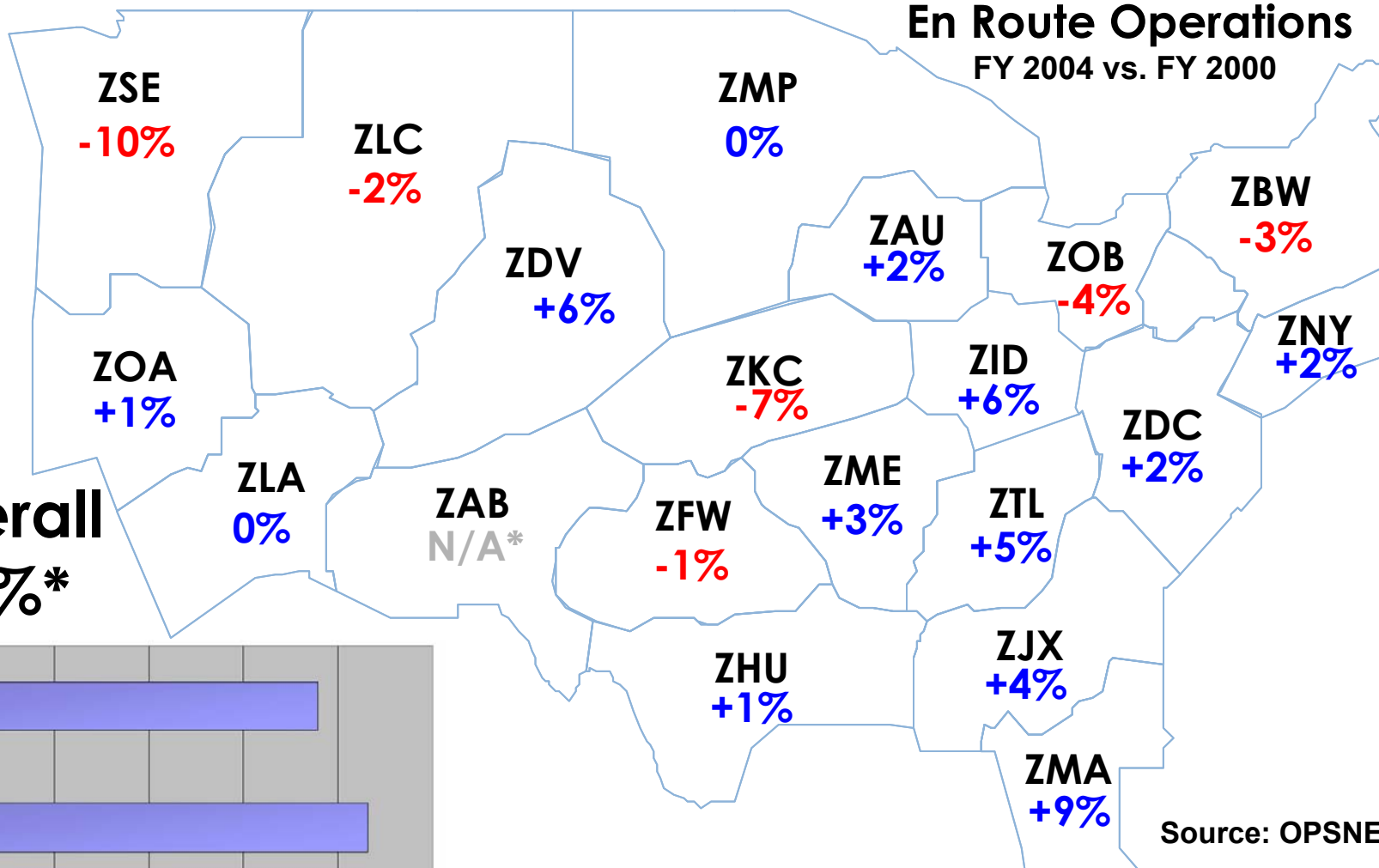
Source: OPSNET (Operations); ASPM (Delay)



En Route Traffic is Increasing

En Route Traffic has surpassed 2000 levels

En Route Operations FY 2004 vs. FY 2000



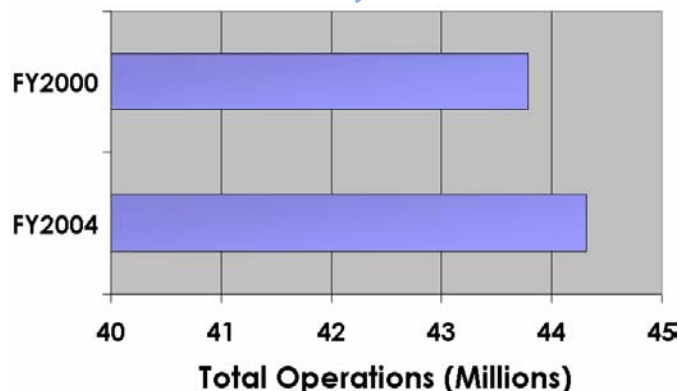
Source: OPSNET

*Does not include ZAB
(inconsistent data)

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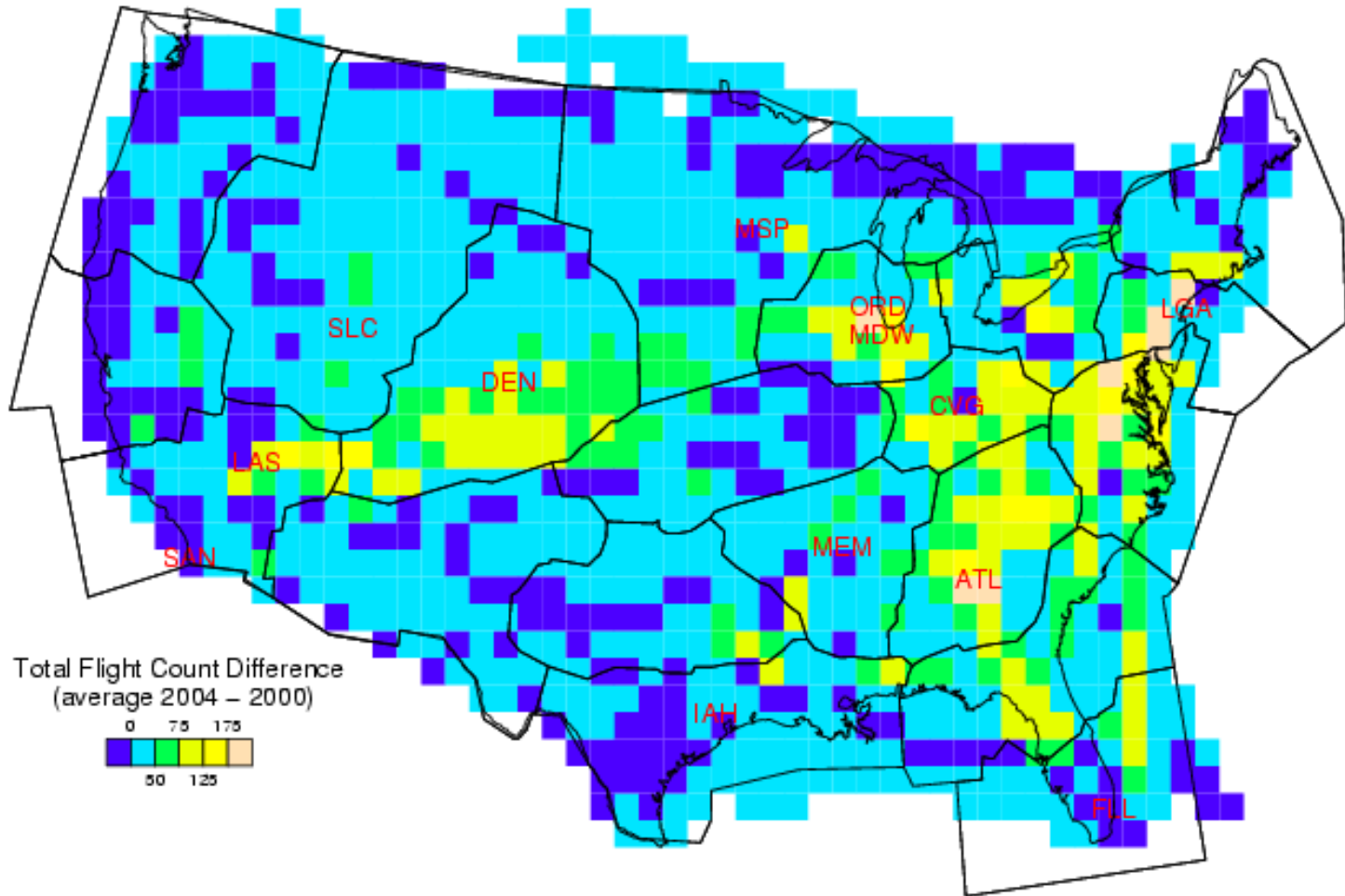
Overall
+1%*





Differences in Total Flight Counts

En Route Traffic Growing in Most Congested Areas (High Altitude)



Source: ETMS: 19 and 23 Good Weather Weekdays in '00 and '04, resp.



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Important Analyses Released Since Last Industry Day

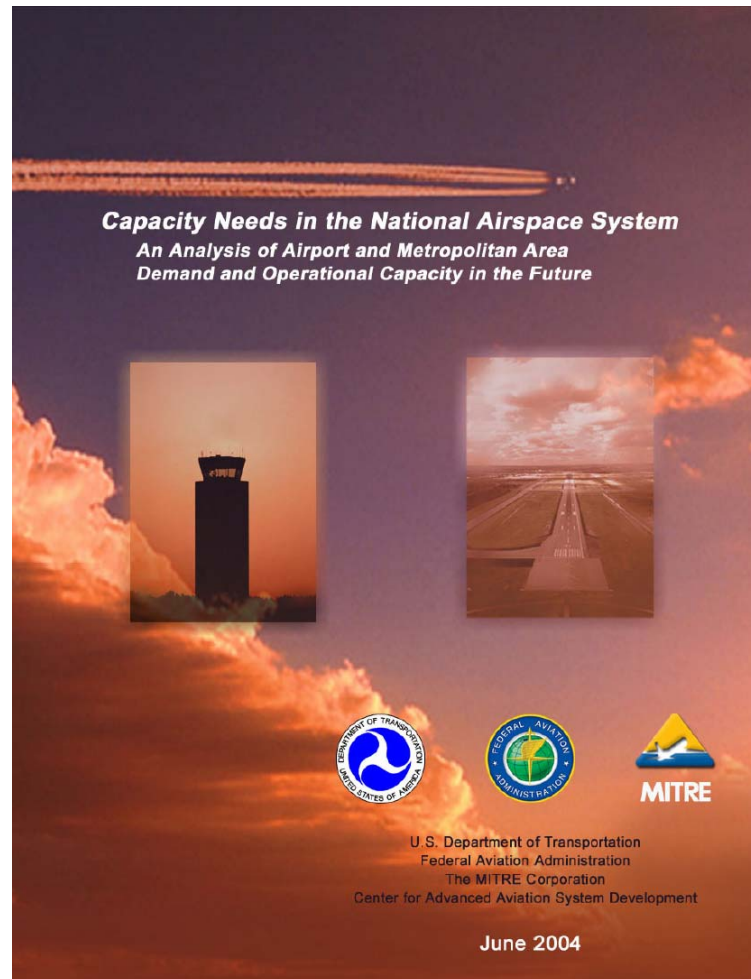


Capacity Needs in the NAS

Identifying Airports Needing Additional Capacity



Determine which airports will need additional capacity & why, given the anticipated future demand for air travel

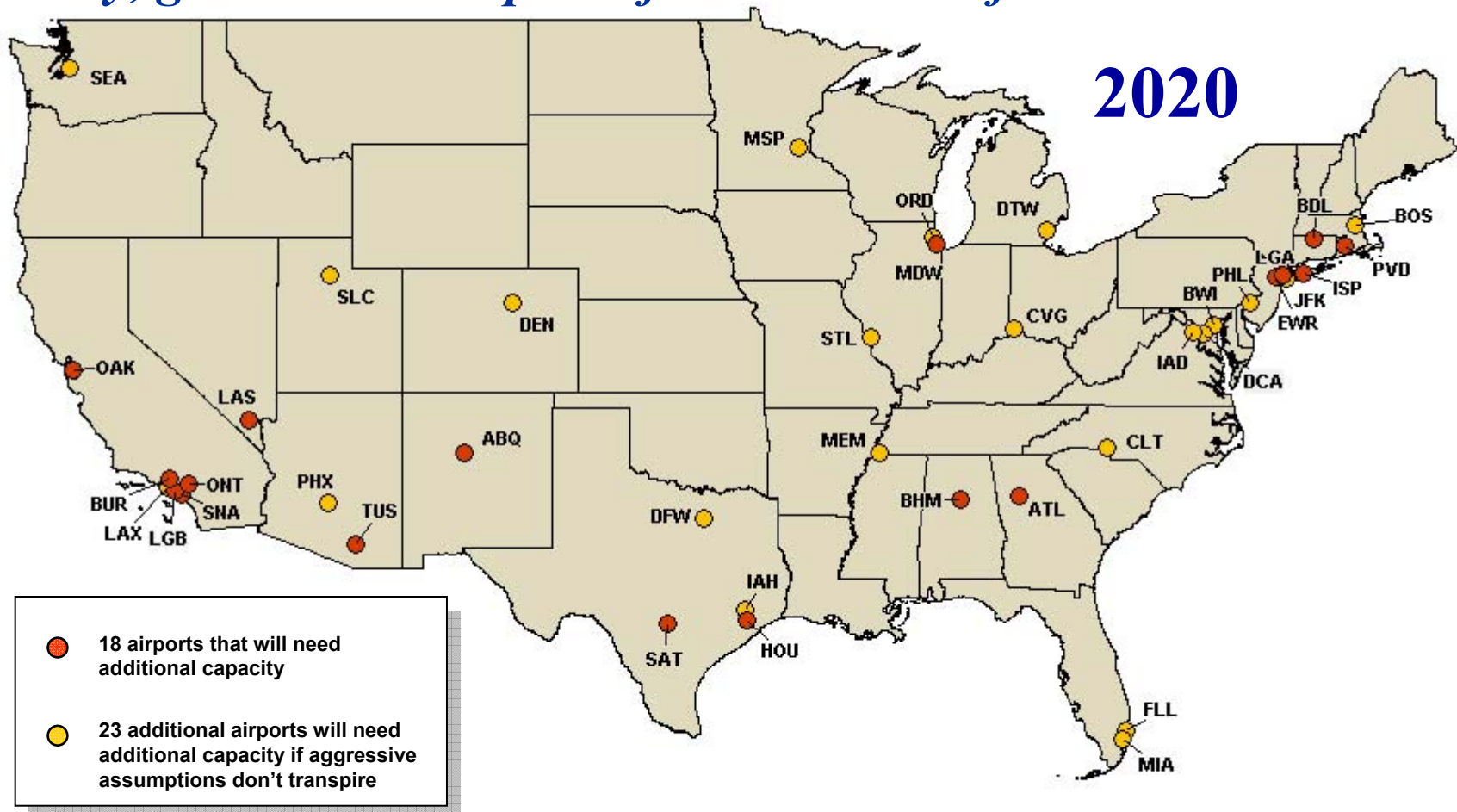




Capacity Needs in the NAS

Identifying Airports Needing Additional Capacity

Determine which airports will need additional capacity & why, given the anticipated future demand for air travel





Airport Capacity Benchmarks

Capacities for Current and Future Configurations



Airport Capacity Benchmark Report 2004



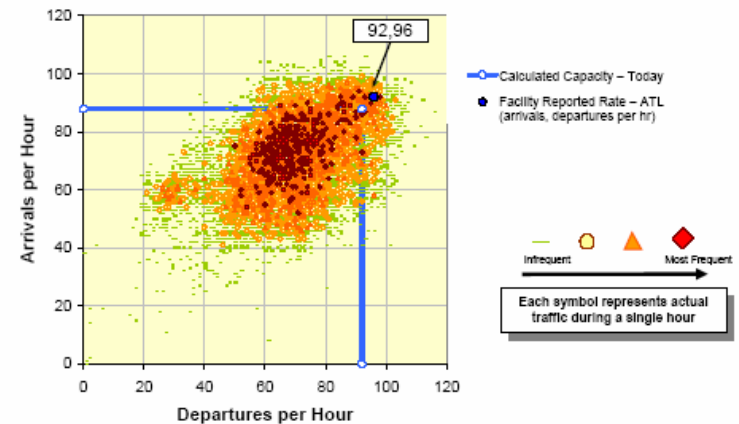
U.S. Department of Transportation
Federal Aviation Administration
The MITRE Corporation
Center for Advanced Aviation System Development

October 2004

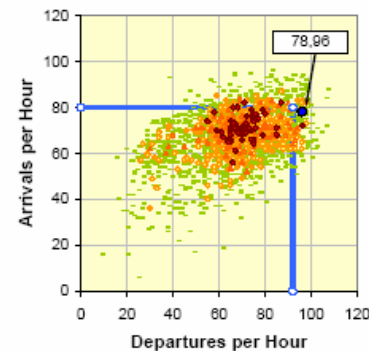
ATLANTA – Hartsfield-Jackson Atlanta International Airport (ATL)

Calculated Capacity (Today) and Actual Throughput

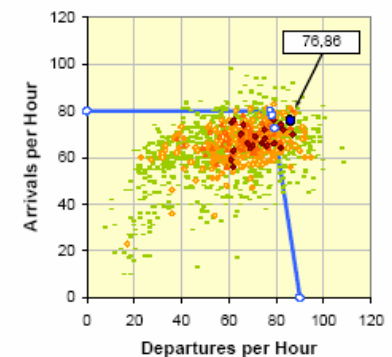
Optimum Rate



Marginal Rate



IFR Rate



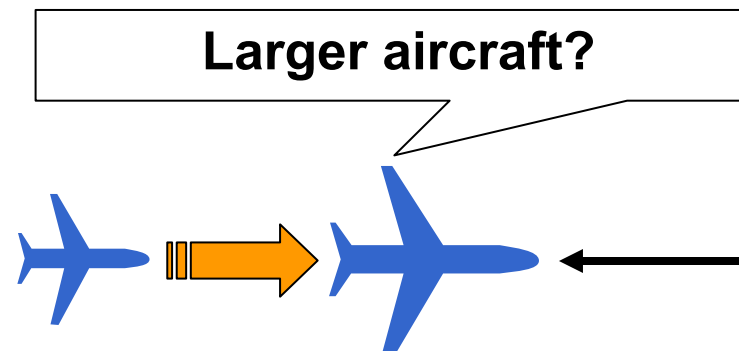
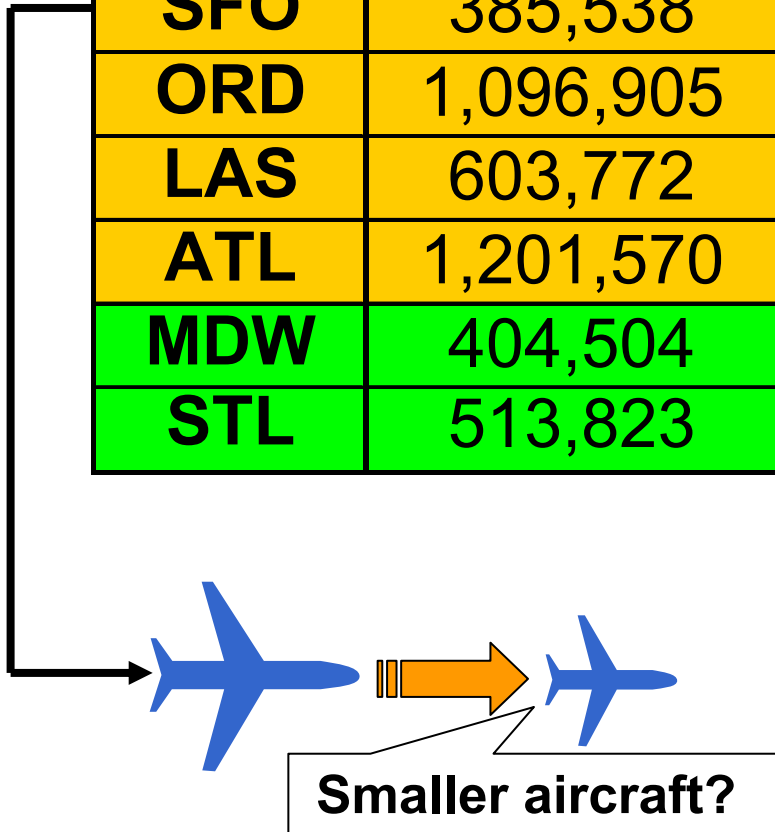


Terminal Area Forecasts

Updating Predictions as the System Adjusts



Airport	2002 TAF (2013)	2003 TAF (2013)	% Change in 2013 <i>Forecast Growth</i>
SFO	385,538	446,791	+16%
ORD	1,096,905	1,262,988	+15%
LAS	603,772	664,583	+10%
ATL	1,201,570	1,240,685	+3%
MDW	404,504	346,471	-14%
STL	513,823	366,418	-29%





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Updated Model Results



NAS Performance Assessment

Anticipated High Scheduled Arrival Delays



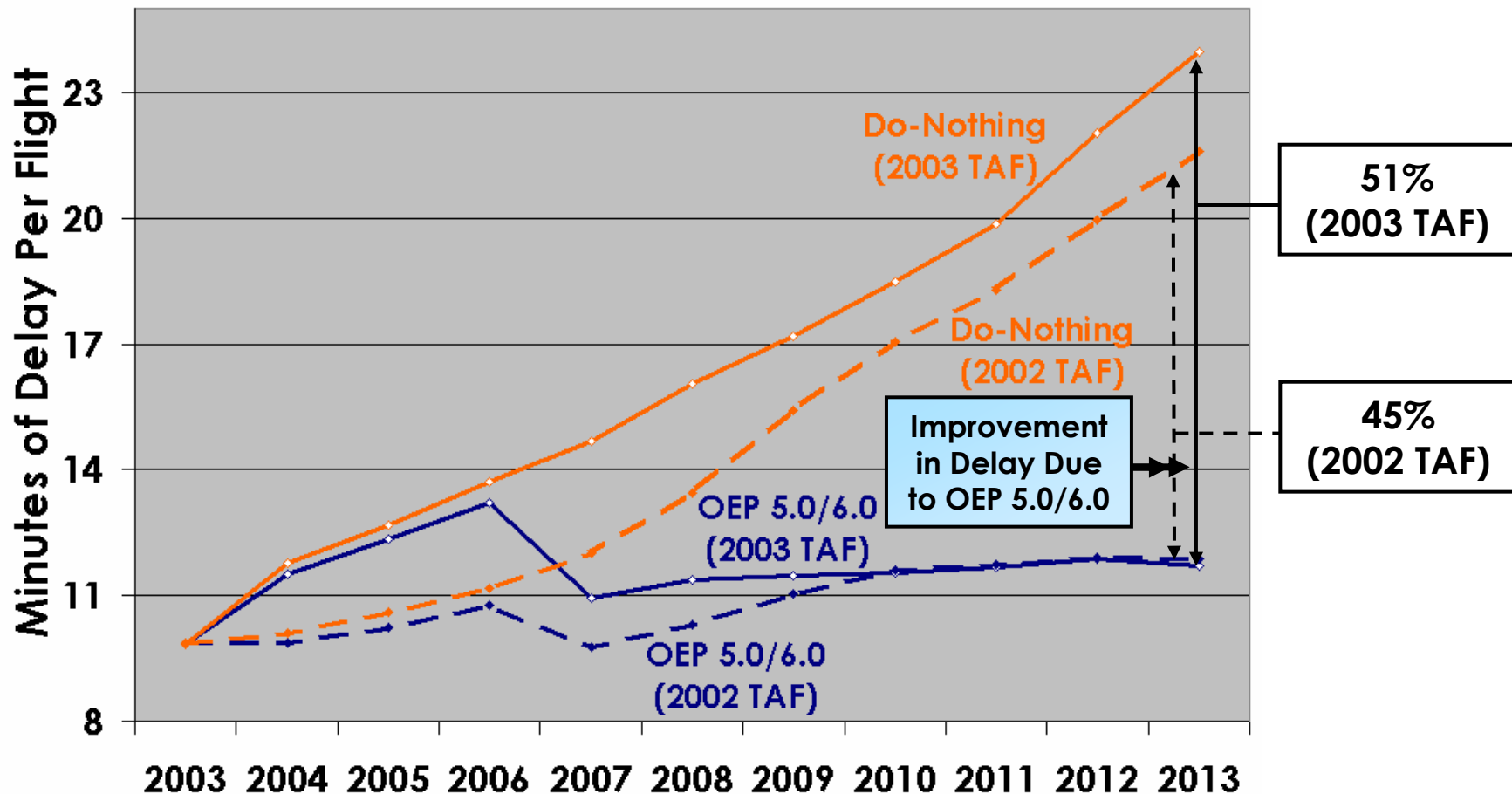
Expected Annual Arrival Delay (FY2013)		
Airport	TAF 2002	TAF 2003
EWR	35.61	31.96
FLL	27.87	25.89
IAD	12.00	12.56
JFK	12.86	13.36
LGA	15.67	16.07
MIA	12.22	12.22
ORD	21.59	22.72
PHL	13.81	14.58
CLT	10.76	12.05

*OEP version 5.0/6.0 results are based on the 2002 and 2003 TAFs; in both cases, demand was adjusted at EWR, FLL, and ORD.



Changing NAS Performance

OEP v5.0/6.0 Implemented Year by Year



Results are based on the 2002 and 2003 TAFs; in both cases, demand was adjusted at EWR, FLL, and ORD.



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Modeled vs. Actual Performance

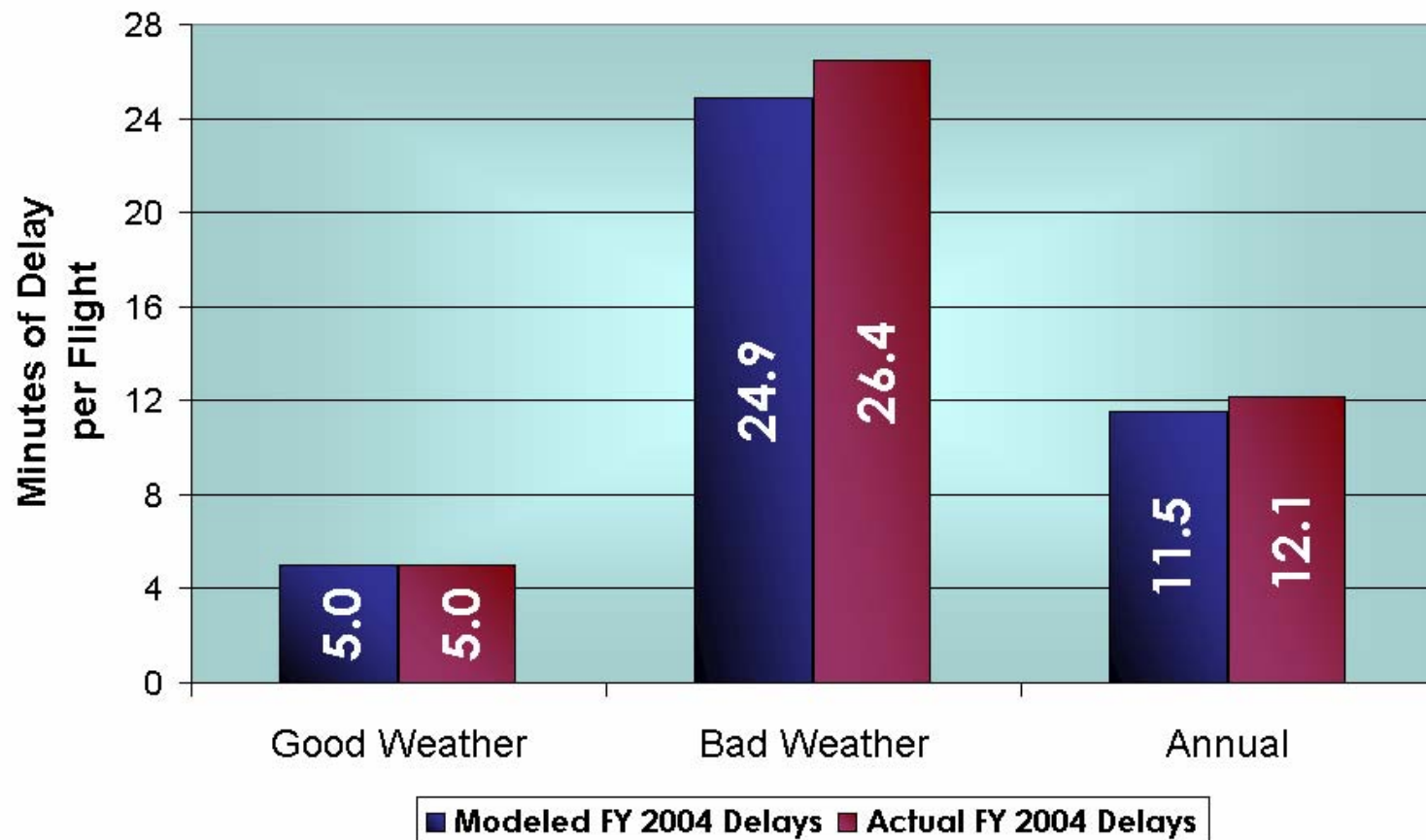


Quality of Performance Estimates

Comparison of FY04 Modeled vs. Actual Delays



FY 2004 Delays Across OEP 35 Airports



*OEP version 5.0/6.0 results are based on the 2003 TAF



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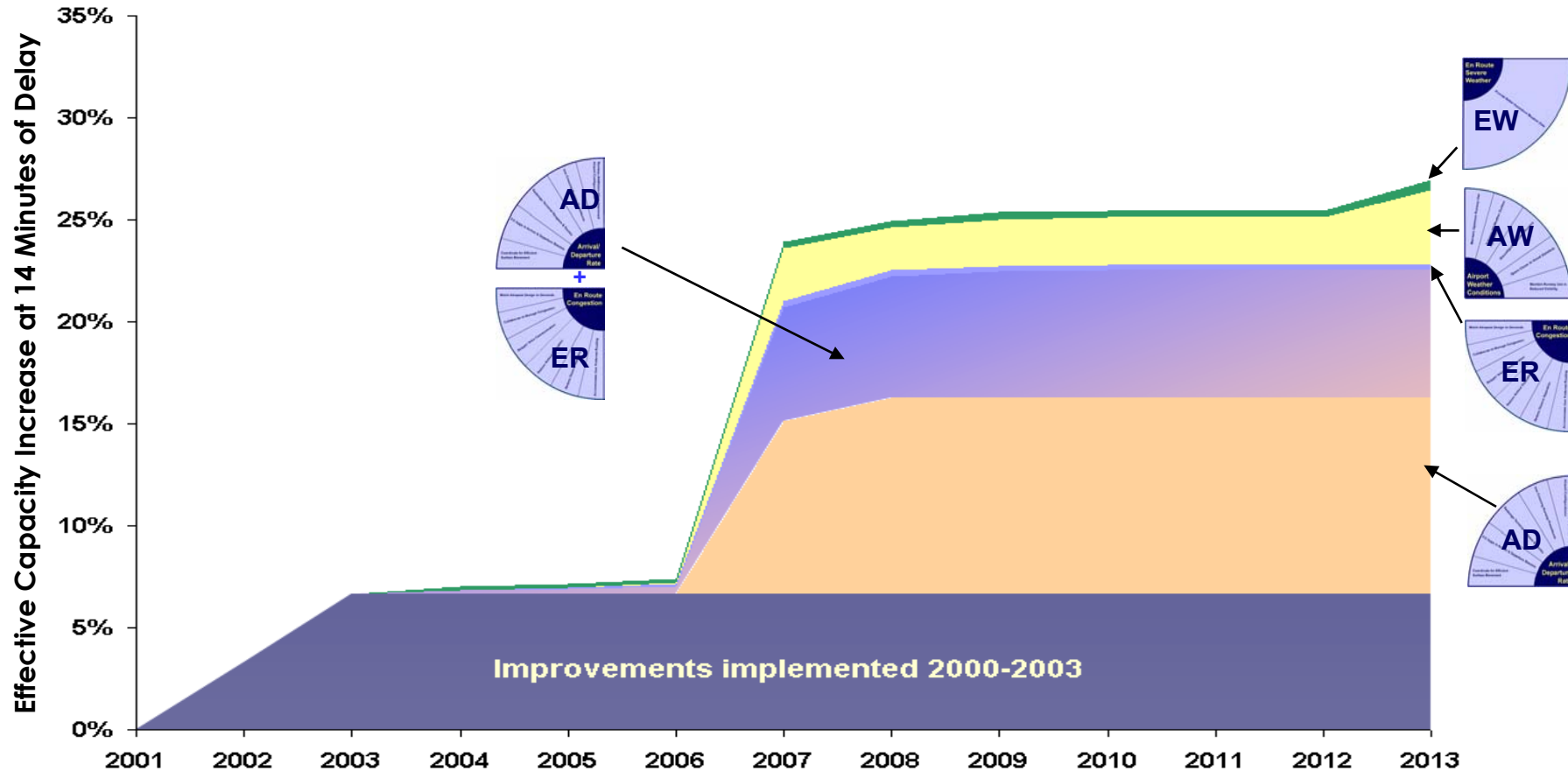


The Changing Landscape



NAS-Wide Effective Capacity

Past Results: Full OEP version 5.0 (2002 TAF)

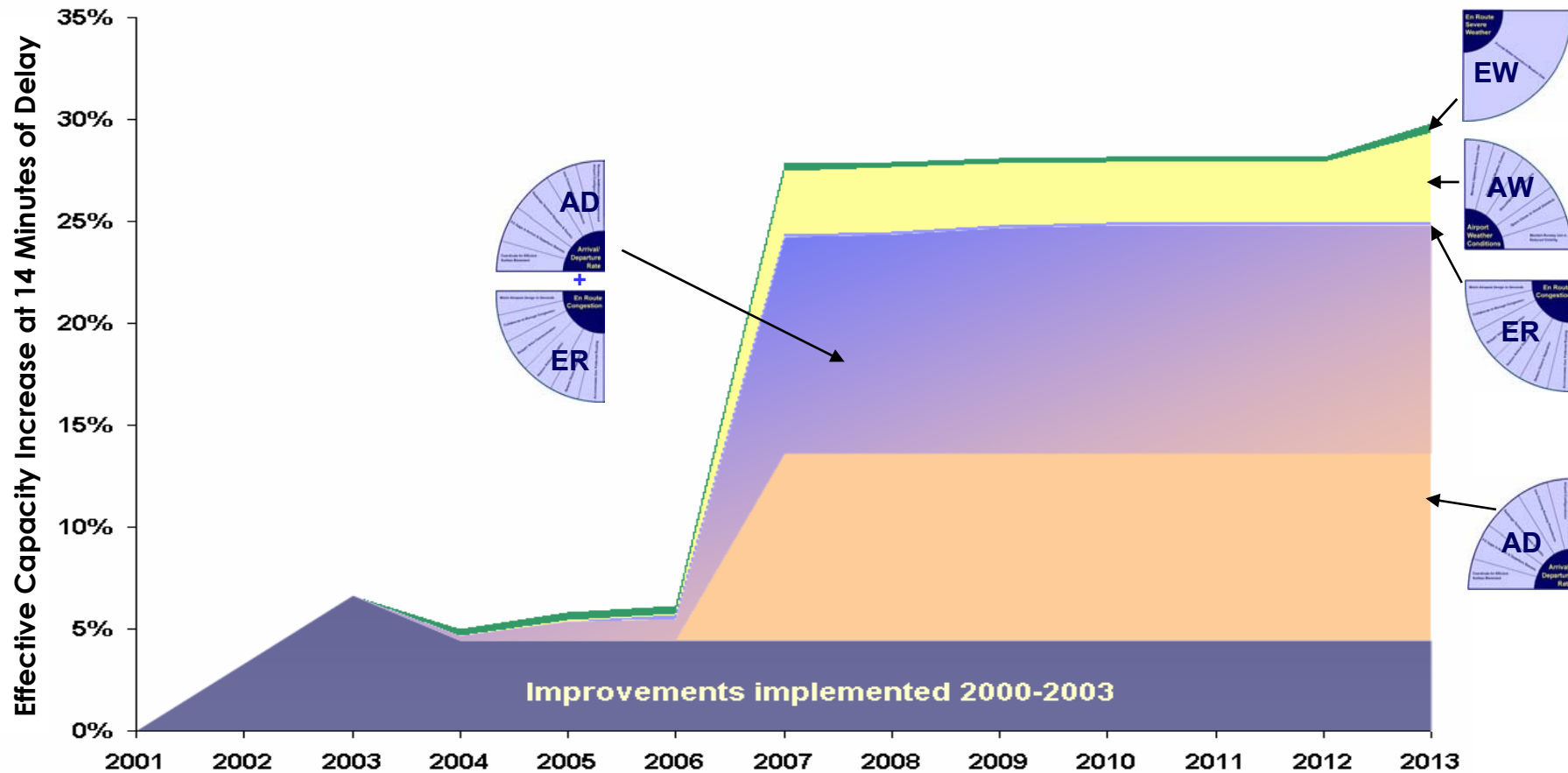


Effective capacity results are based on the 2002 TAF; demand was adjusted at EWR, FLL, and ORD.
Results presented last Industry Day.



NAS-Wide Effective Capacity

Current Results: Full OEP version 5.0/6.0 (2003 TAF)



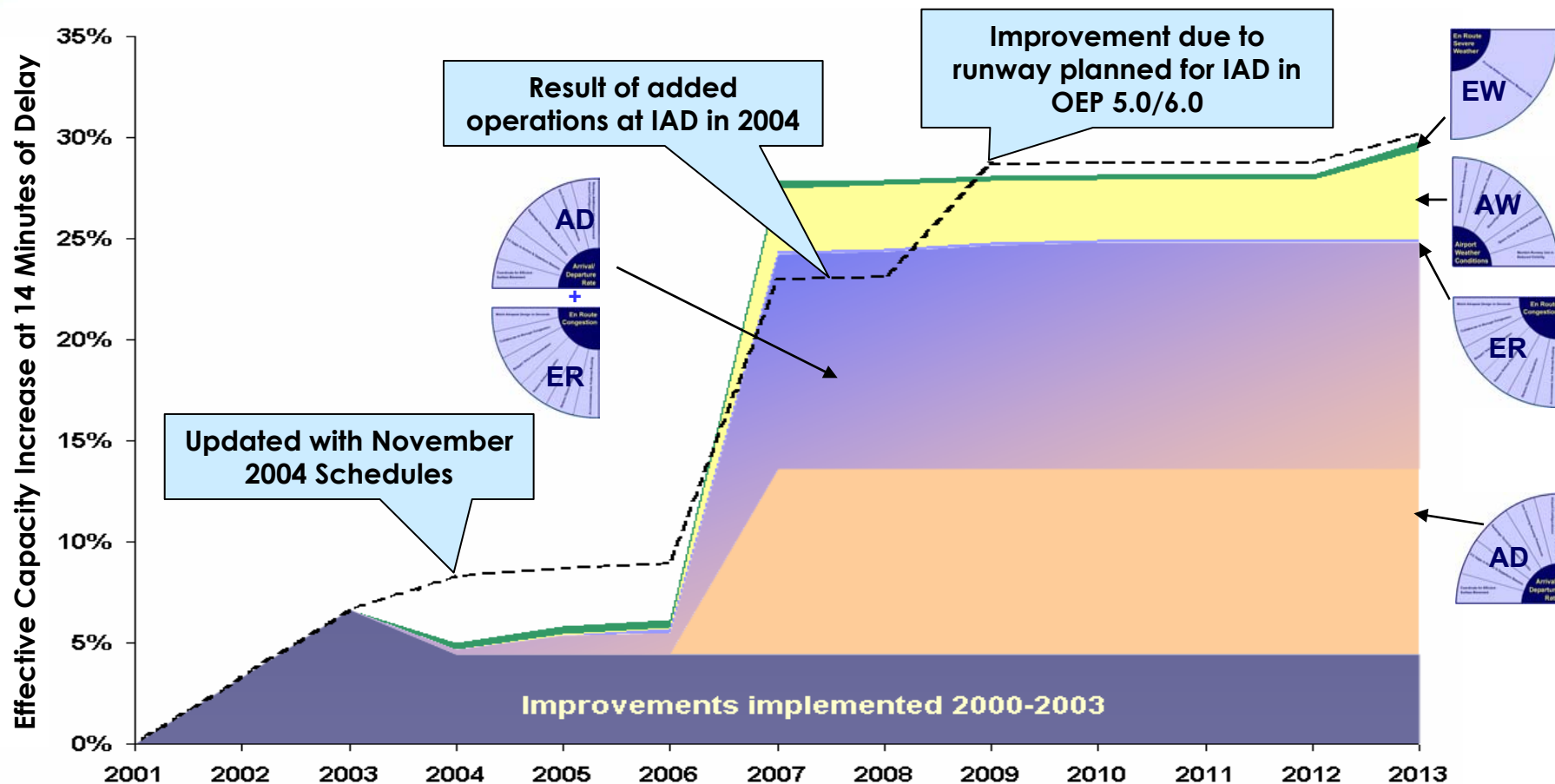
Effective capacity results are based on the 2003 TAF; demand was adjusted at EWR, FLL, and ORD.



NAS-Wide Effective Capacity

Current Results: Full OEP version 5.0/6.0 (2003 TAF)

Updated November 2004 Schedules



Effective capacity results are based on the 2003 TAF; demand was adjusted at EWR, FLL, and ORD.



Summary



- **Continue pressing forward on improvements**
- **Work on ways to obtain VMC-like capacities during IMC conditions**
- **Certain airports will continue to be/begin to be challenging as the system undergoes rapid change**
- **Airports outside the current OEP need to be closely followed as they grow**
- **Version 8 will address many of these issues**